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## Case Report

# An eclamptic dilemma: a rare case of old cerebral venous thrombosis with antepartum eclampsia

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### ABSTRACT

Pregnancy and puerperium are associated with an increased risk of venous thromboembolic events, including cerebral venous thrombosis (CVT), which accounts for a significant proportion of pregnancy-related strokes. Women with a previous history of CVT are at increased risk of recurrence and hypertensive disorders of pregnancy. We report a rare case of a primigravida presenting with antepartum eclampsia and recurrent seizures, later diagnosed as posterior reversible encephalopathy syndrome with radiological evidence of old CVT. The patient had discontinued prior anticoagulation and antiepileptic therapy and did not disclose her medical history during antenatal care. Prompt multidisciplinary management led to a favorable maternal outcome. This case highlights the diagnostic challenge of differentiating eclampsia from neurological sequelae of previous CVT and underscores the importance of detailed history-taking and thromboprophylaxis in high-risk pregnancies.

**Keywords:** Cerebral venous thrombosis, Antepartum eclampsia, Posterior reversible encephalopathy syndrome, Pregnancy-related seizures, Thromboprophylaxis

### INTRODUCTION

Pregnancy and the puerperium are recognized hypercoagulable states associated with a significantly increased risk of venous thromboembolic events. CVT is an uncommon but potentially life-threatening cause of stroke in young women and accounts for a substantial proportion of pregnancy-related cerebrovascular events. The risk of CVT is highest during the third trimester and early postpartum period due to physiological changes in coagulation, venous stasis, and endothelial injury.<sup>1</sup>

Women with a previous history of venous thromboembolism, including CVT, are categorized as high-risk pregnancies and generally require antenatal and postpartum thromboprophylaxis to prevent recurrence.<sup>2</sup> Failure to identify such history may result in adverse maternal and fetal outcomes. The clinical presentation of CVT can overlap with hypertensive disorders of

pregnancy, particularly eclampsia, posing a diagnostic challenge. This case highlights the importance of considering old CVT as a differential diagnosis in pregnant women presenting with seizures.<sup>1,3</sup>

### CASE REPORT

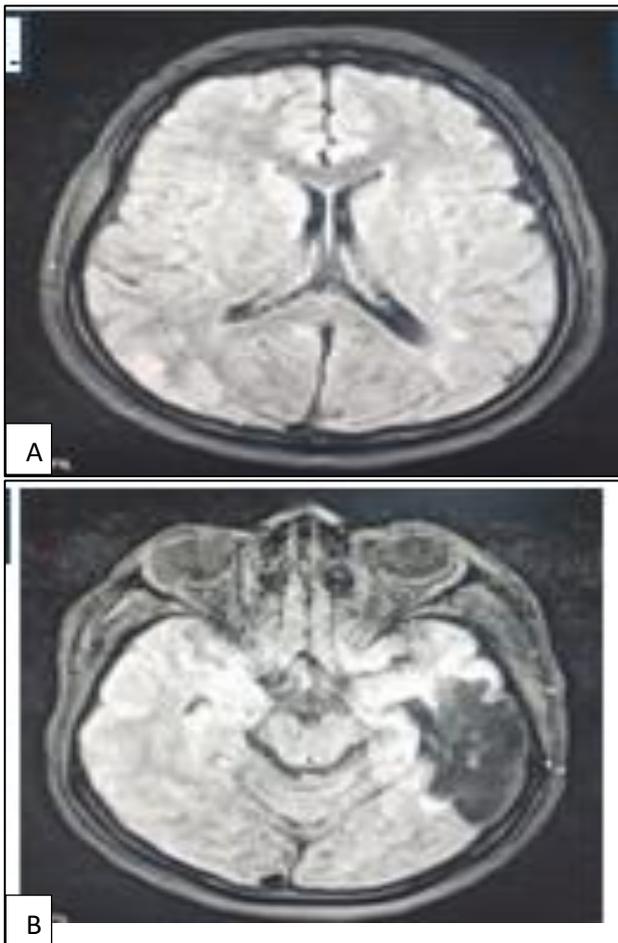
A 20-year-old primigravida, unbooked, with eight months of amenorrhea was referred to our tertiary care center following two episodes of generalized tonic-clonic seizures. On admission, the patient was in a postictal state with a blood pressure of 140/90 mmHg. Other vital parameters were stable. In view of suspected antepartum eclampsia, magnesium sulfate therapy was initiated as per standard protocol.

On further evaluation, the patient revealed a history of severe holocranial headache associated with vomiting four years earlier, for which magnetic resonance imaging of the

brain had shown cerebral venous thrombosis. She had been treated with anticoagulation and antiepileptic drugs but discontinued both therapies prematurely and did not pursue further follow-up. This significant past history was not disclosed during antenatal visits.

In view of antepartum eclampsia, labor was induced, and the patient delivered a preterm male neonate vaginally. Postnatally, she developed recurrent episodes of generalized tonic-clonic seizures and was shifted to the intensive care unit for further management. Magnetic resonance imaging of the brain revealed features of posterior reversible encephalopathy syndrome along with gliosis and encephalomalacia in the left temporal lobe and loss of flow signal in the left transverse and sigmoid sinuses, consistent with old cerebral venous thrombosis (Figure 1 and 2).

The patient was managed with antiepileptic therapy and supportive care following multidisciplinary consultation involving obstetrics, neurology, and medicine. Her clinical condition improved, and she was discharged in stable condition with advice for regular follow-up.



**Figure 1 (A and B):** Magnetic resonance imaging of the brain revealed features of posterior reversible encephalopathy syndrome along with gliosis and encephalomalacia in the left temporal lobe.



**Figure 2:** Magnetic resonance imaging of the brain showing loss of flow signal in the left transverse and sigmoid sinuses, consistent with old cerebral venous thrombosis.

## DISCUSSION

Cerebral venous thrombosis predominantly affects young women and is frequently associated with pregnancy and the puerperium. Studies have shown that women who conceive after an episode of CVT have a higher incidence of hypertensive disorders of pregnancy, preterm delivery, and low birth weight neonates compared to the general population.<sup>1,4</sup>

Pregnancy increases the risk of venous thromboembolism by nearly fourfold, particularly in women with a prior history of thrombotic events.<sup>5,6</sup> Inadequate thromboprophylaxis and poor adherence to long-term anticoagulation significantly increase the likelihood of recurrence<sup>7</sup>. In the present case, discontinuation of anticoagulant therapy and lack of antenatal disclosure likely contributed to disease manifestation.

Old CVT with residual gliosis and venous sinus involvement can present with seizures and radiological findings that overlap with eclampsia-related neurological complications, such as posterior reversible encephalopathy syndrome.<sup>8</sup> This overlap often results in diagnostic confusion and delayed recognition of underlying neurological pathology. Neuroimaging plays a pivotal role in distinguishing eclampsia from CVT-related sequelae and should be considered early in pregnant women presenting with seizures and atypical features.<sup>3,7</sup>

This case emphasizes the need for meticulous history-taking, early imaging, and a multidisciplinary approach to management in high-risk pregnancies.

## CONCLUSION

Old cerebral venous thrombosis can masquerade as antepartum eclampsia due to overlapping clinical and

radiological features. A high index of suspicion, thorough medical history, early neuroimaging, and multidisciplinary management are essential to optimize maternal and fetal outcomes in women with a prior history of thromboembolic events.

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